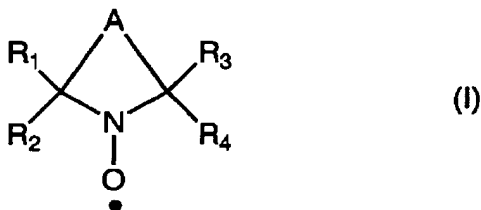
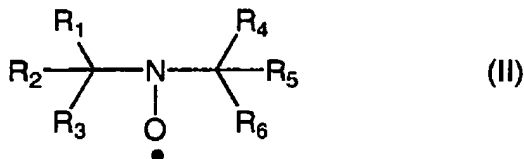


IN THE CLAIMS

1. (Previously presented) A method of oxidizing carbohydrates having primary alcohol groups, the method comprising the steps of:
placing a nitroxyl radical mediator, halide and peroxidase enzyme in solution ;
with the carbohydrates, and
adding a hydroperoxide to the solution containing carbohydrates thereby
oxidizing the carbohydrates.
2. (Original) The method of claim 1 wherein the hydroperoxide is hydrogen peroxide.
3. (Original) The method of claim 1 wherein the carbohydrate is a polysaccharide.
4. (Original) The method of Claim 3 wherein the polysaccharide is selected from the group consisting of starch and cellulose pulp.
5. (Original) The method of Claim 1 wherein the nitroxyl radical mediator is a di-tertiary alkyl nitroxyl radical has a formula selected from the group consisting of:

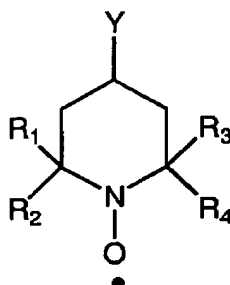


and



wherein A represents a chain of preferably two or three atoms, in particular carbon atoms or a combination of one or two carbon atoms with an oxygen or nitrogen atom, and the R groups represent the same or different alkyl groups.

6. (Previously presented) The method of Claim 5 wherein the nitroxyl radical mediator has the formula:



where Y is H, OH, O-C(O)-CH₃ or NH-C(O)-CH₃.

7. (Original) The method of Claim 2 wherein the peroxidase enzyme is derived from an animal source.
8. (Previously presented) The method of Claim 2 wherein the peroxidase enzyme is selected from the group consisting of lactoperoxidase ("LPO"), myeloperoxidase ("MPO"), eosinophil peroxidase ("EPO"), thyroid peroxidase ("TPO"), ovoperoxidase, salivary peroxidase, and vanadium haloperoxidase.
9. (Original) The method of Claim 1 wherein the halide ion is bromide.
10. (Previously presented) The method of claim 1 wherein the peroxidase enzyme is LPO; the temperature of the reaction is kept between about 10°C to about 70°C; the pH is between about 3.0 to about 9.0; and the nitroxyl radical mediator is present in an amount of between about 0.01 to about 50 wt % by weight of the carbohydrate.

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11. (Original) The method of claim 10 wherein the temperature of the reaction is kept between about 20°C to about 50°C; the pH is between about 4.5 to about 6.5; and the nitroxyl radical mediator is present in an amount of between about 0.1 to about 20 wt % by weight of the carbohydrate.
12. (Cancelled) The oxidized carbohydrate prepared by the process of claim 1.
13. (Cancelled) A method of preparing nitrosonium ion comprising adding a hydroperoxide to a solution of a nitroxyl radical mediator, wherein said method is catalyzed by a peroxidase enzyme in the presence of a halide.
14. (Cancelled) The paper or absorbent product prepared from the oxidized carbohydrate of claim 1.
15. (Previously presented) The method according to claim 1 wherein the hydroperoxide oxidizes the halide to its corresponding hypohalite by catalytic action of the peroxidase enzyme, and
wherein the hypohalite oxidizes the nitroxyl radical mediator to its corresponding nitrosonium ion.
16. (Previously presented) The method according to claim 15 wherein the nitrosonium ion oxidizes primary alcohols of the carbohydrates to aldehydes.

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STATUS OF THE CLAIMS

Claims 1-11 and 15-16 were pending.

Claims 1-11 and 15-16 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Viikari, et al. (WO 99/23117).

Claims 1-11 and 15-16 have been rejected under 35 U.S.C. § 102(c) as being anticipated by Jaschinski, et al. (US 6,824,645).

Claims 1-11 and 14-15 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Amann, et al. (US 6,242,245) in view of Allen (US 6,503,507).

Claims 1-11 and 15-16 are presented for reconsideration.

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